IN little more than a quarter century, the manufacture of Timken Bearings has become by far the greatest bearing industry. A daily capacity of 125,000 bearings is required of Timken plants in the United States, Great Britain and France. The total of Timken Bearings built has reached 150,000,000! And Timken Bearings are being ever more nearly universally applied to machinery of all kinds, to rolling stock, and to motor vehicles.

Indeed, in many instances, the use of anti-friction bearings first became possible only because of the special characteristics of Timken Bearings.

The progress of industry toward a scientifically economic basis throughout will be in your hands. And Timken Bearings are playing an ever larger part in industrial economics. The reasons are interestingly outlined in the little stiff-bound book, "The Design of the Timken Bearing." You may have a copy upon request.

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

GOOD LIGHTING OF INDUSTRIAL PLANTS SECURES SAFETY AND EFFICIENCY.

The Code of Lighting for factories, mills and other work places of the State of New Jersey makes excellent recommendations of daylight for the proper lighting of industrial buildings.

Adequate daylight facilities through large window areas, together with light, cheerful surroundings, are highly desirable and necessary features in every work place, and they should be supplied through the necessary channels, not only from the humane standpoint, but also from the viewpoint of maximum plant efficiency.

Importance of Daylight.

The unusual attention to gas and electric lighting in factories, mills and other work places during the past few years; the perfection of various lamps and auxiliaries, by means of which an improved quality and quantity of lighting effects are obtained; and the care which has been devoted to increasing the efficiency in various industrial apparatus—all go to emphasize the many advantages and economies that result from vital and adequate window space, as a means for daylight in the proper quantities, and in the right direction during those portions of the day when it is available.

Three Considerations.

Three important considerations of any lighting method are sufficiency, continuity and diffusion, with respect to the daylight illumination of interiors. Sufficiency demands adequate window area; continuity requires (a) large enough window area for use on reasonably dark days, (b) means for reducing the illumination when excessive, due to direct sunshine, and supplementing lighting equipment for use on particularly dark days, and especially towards the close of winter days, (c) diffusion demands interior decorations that are as light in color as practicable for ceilings and upper portions of walls, and of a dull or matt finish, in order that the light which enters the windows or that which is produced by lamps may not be absorbed and lost on the first object that it strikes; but that it may be returned by reflection and thus be used over and over again.

Diffusion also requires that the various sources of light, whether windows, skylights or lamps, be well distributed about the space to be lighted. Light colored surroundings as here suggested result in marked economy, but their main object is perhaps not so much economy as to obtain results that will be satisfactory to the human eye.

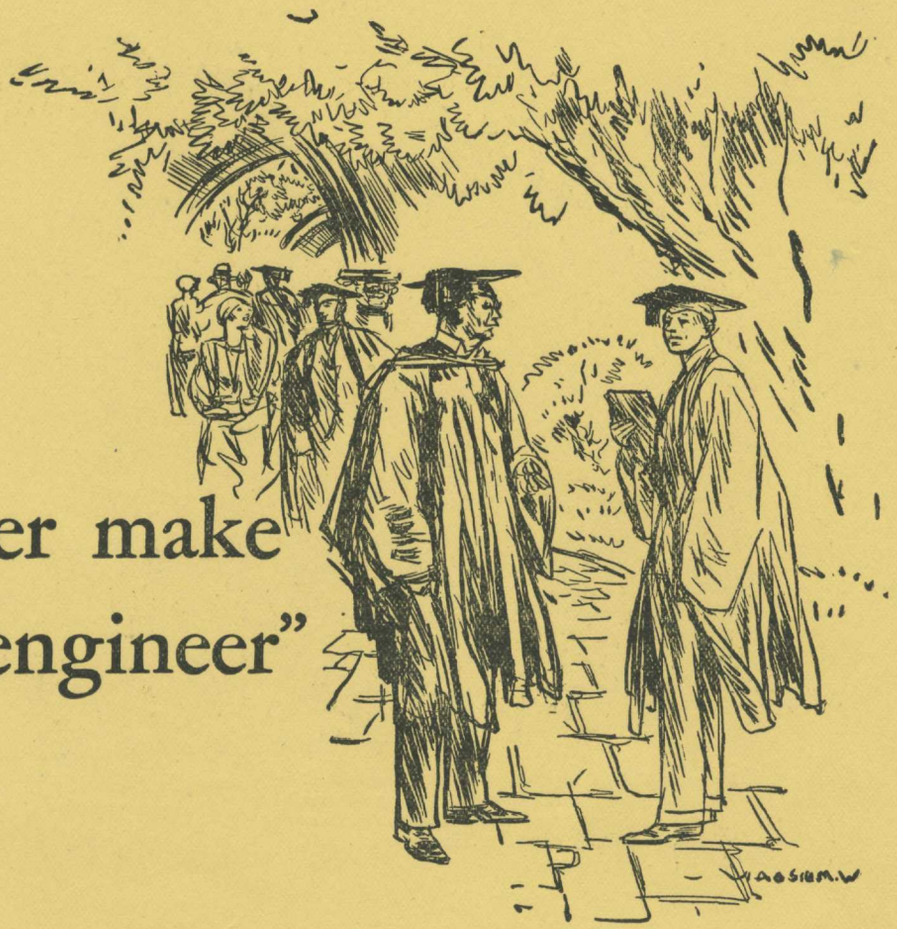
Requirements for natural lighting:

1. The light should be adequate for each employe.
2. The windows should be so spaced and located that daylight is fairly uniform over the working area.
3. The intensities of daylight should be such that artificial light will be required only during those portions of the day when it would naturally be considered necessary.
4. The windows should provide a quality of daylight which will avoid a glare, due to the sun's rays, and light from the sky shining directly into the eye, or where this does not prove to be the case at all parts of the day, window shades or other means should be available to make this end possible.

As will be noticed in the above recommendations, large windows and proper diffusion of daylight are urged, in order to meet the demands of daylight lighting.

Shades may be eliminated and most efficient lighting obtained by the use of Factrolite Glass.

If interested in the distribution of light through Factrolite, we will send you a copy of Laboratory Report—"Factrolited."



"You'll never make an electrical engineer"

Carl Taylor

SO a blond young man named Taylor, just graduating in electrical engineering at the University of North Carolina, was advised by a conscientious professor. The professor's conviction was based on quiz papers and was amply justified. But the young man was not discouraged; he had other hopes, he said. Today—ten years later—he occupies a peculiarly important position with the Westinghouse Company.

Before Carl Taylor had completed his apprenticeship with Westinghouse he began to sell apparatus to utility-customers. He had previously sold clothing in college. He had selected an electrical engineering course because he believed the industry promising for men of selling interests.

His first actual order—the electrification of a scrap yard—was awarded to him at a higher price than that asked by any other bidder because he had "lived with" the job and given all the service this implies.

Some months later the Company was surprised at a request from him for an indefinite leave of absence. He wanted to take a job with a manufacturer of steel mill machinery, in order better to understand the problems of such users of electrical equipment. His leave lasted two years. He returned from the superintendency of a well-known plant—returned at a lower salary than the superintendency had paid him. But within three years he was manager of the industrial division of the Pittsburgh Sales Office—the largest division of the Westinghouse Company in the entire country. Today he has a sales organization of sixty-five men.

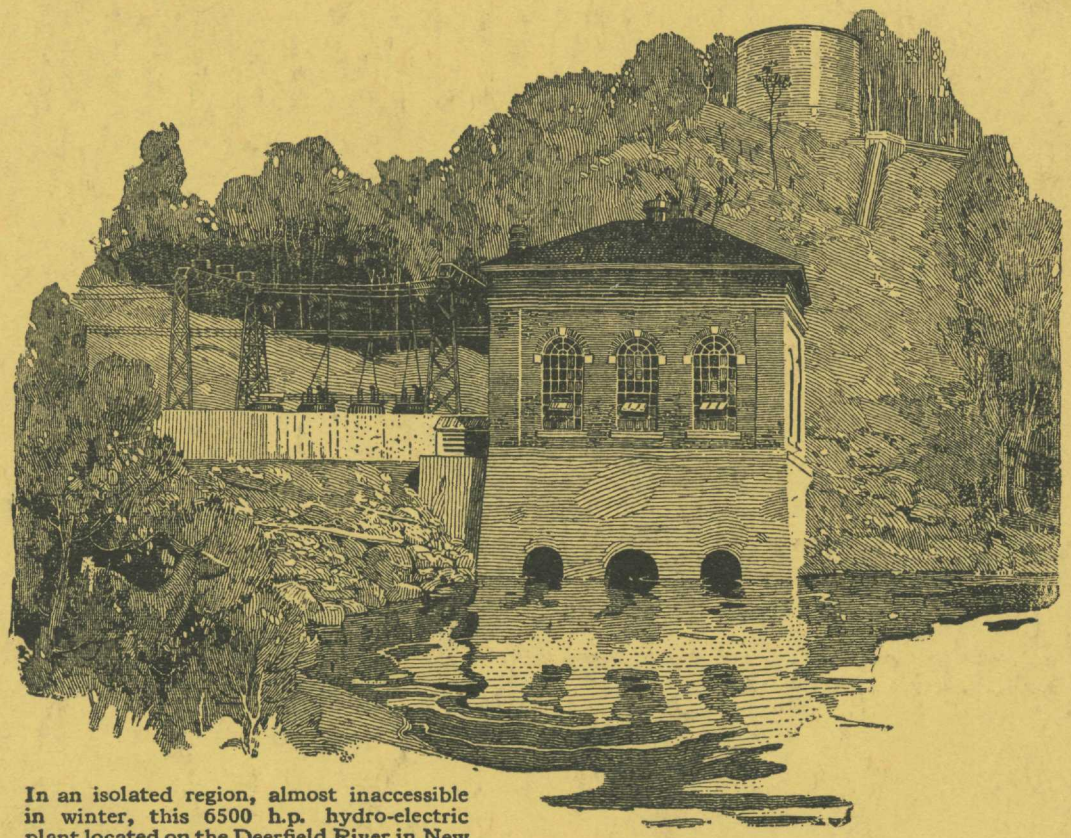
To get the customer's point of view—to go the limit to anticipate his wants and keep him satisfied—this is the Westinghouse sales policy. It is the policy of all enlightened industrial organizations. Men who can exemplify it in their personal careers need have no question about their futures.

The question is asked: Where do young men get when they enter a large industrial organization? Have they opportunity to exercise creative talents? Or are they forced into narrow grooves?

This series of advertisements throws light on these questions. Each advertisement takes up the record of a college man who came to Westinghouse within the last ten years, immediately after graduation.

Westinghouse

WESTINGHOUSE ELECTRIC



In an isolated region, almost inaccessible in winter, this 6500 h.p. hydro-electric plant located on the Deerfield River in New England, starts, protects, and stops itself.

A Self-Starting Power Plant

Dawn—the slumbering city awakens and calls for electric current. Many miles away the call is answered. A penstock opens automatically, releasing impounded waters; a water turbine goes to work, driving a generator; and electric current is soon flowing through wires over the many miles to the city. This plant starts and runs itself.

Power plants with automatic control are now installed on isolated mountain streams. Starting and stopping, generating to a set capacity, shutting down for hot bearings and windings, gauging available water supply, they run themselves with uncanny precision.

Thus another milestone has been reached in the generation of electric power. And with present-day achievements in power transmission, electricity generated anywhere may be applied everywhere.

The non-technical graduate need not know *where* electricity comes from—nor even *how* it works. But he should know *what* electricity can do for him no matter what vocation he selects.

The General Electric Company has developed generating and transmitting equipment step by step with the demand for electric power. Already electricity at 220,000 volts is transmitted over a distance of 270 miles. And G-E engineers, ever looking forward, are now experimenting with voltages exceeding a million.

A new series of G-E advertisements showing what electricity is doing in many fields will be sent on request. Ask for booklet GEK-1.

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GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, NEW YORK